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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,121	10/20/2003	Tuan A. Le	843161-320	3631

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EXAMINER	
DANG, KHANH	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,121	LE ET AL.	
	Examiner	Art Unit	
	Khanh Dang	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 9 and 14, "said front card" lacks antecedent basis.

In claim 2, line 22, "said front card" lacks antecedent basis.

In claim 7, lines 19, 20, and 24, "said front card" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Larson et al. (Larson, 2003/0033464).

As broadly drafted, these claims do not define any structure that differs from Larson.

With regard to claim 1, Larson discloses a method of mapping a plurality of states for controlling hot-swappablility in a Compact Peripheral Component Interconnect (CPCI) system (see at lest the abstract), said method comprising: specifying a hot-swap state of a CPCI node card for controlling hot-swappability of said CPCI node card (the system of Larson is a CPCI and therefore, must be in full compliance with the CompactPCI specification, and particularly CompactPCI Hotswap Specification, which support hot swap states including hot insertion and removal of CPCI node card; see also Larson, [0061]); mapping said hot-swap state onto an intermediate state by searching a common library associated with the node card and a management software for the node card (the FPGA includes 18 hot swap statuses, and it is clear that a hotswap state of a node card must be correspond to one of the 18 states/statuses of the FPGA associated with the node card and software management so that a hotswap state can be recognized by the FPGA; see at least [0061]-[0064]); and mapping said intermediate state onto a first management state of said management software and a second management state of said management software (in CompactPCI Hotswap Specification, availability of the card and operational state of the card is determined using software control (BDSEL# and HEALTHY#), see at least Hot Swap in CompactPCI Systems, cited below; in particular, in Larson, it is clear that management software is used in conjunction with the system management card 300E to monitor "BD SEL" and "HEALTHY" and the state of the hotswap is mapped from the FPGA hotswap status to the hotswap states of the management software; see at least [0063] –[0064]); wherein said management software requires both said first and second management

states to manage said front card (it is clear that according to the CompactPCI Hotswap Specification and particularly Larson, for management purpose, availability of the card and operational state of the card must be monitored and determined (BDSEL# and HEALTHY#).

With regard to claim 2, Larson further discloses specifying a second hot-swap state of said CPCI node card for controlling hot-swappability of said CPCI node card (another one of the 18 hotswap states); specifying a transition state of said CPCI node card when said node card transitions from said first hot-swap state to said second-hot swap state (from card select (when the card is installed, for example) to "healthy" state (when the card is healthy); mapping said transition state onto an intermediate transition state by searching a common library associated with said node card (the FPGA includes 18 hot swap statuses, and it is clear that a hotswap state of a node card must be correspond to one of the 18 states/statuses of the FPGA associated with the node card and software management so that a hotswap state can be recognized by the FPGA; see at least [0061]-[0064]).

With regard to claim 3, Larson further discloses notifying said management software of said intermediate transition state using the FPGA.

With regard to claim 4, Larson further discloses mapping said intermediate transition state onto a third management state of said management software and a fourth management state of said management software (among the 18 states maintained by the FPGA).

With regard to claim 5, it is clear that in Larson, the first and third management states comprise a first operational state and a second operation state and wherein said second and fourth management states comprise a first availability state and a second availability state (see at least [0036], [0053], [0062]-[0063]).

With regard to claim 6, it is clear that CPCI node is a plug and play unit according to the PCI and CPCI specification.

With regard to claim 7, see discussion above regarding claim 1. Note that the CPCI system of Larson must be in full compliance of CompactPCI specification, and particularly CompactPCI Hotswap Specification, associated with the **PICMG** (PCI Industrial Computer Manufacturers Group). PICMG is a consortium of over 450 companies who collaboratively develop open specifications including CPCI specification for high performance telecommunications and industrial computing applications. Note also that it is clear that the hop swappable nodes/CPCI Network of Larson meets the requirements set forth in Telecommunication Management Network (TMN). See An introduction to TMN cited below.

With regard to claim 8, it is clear that the FPGA includes the "common library" comprising a plurality of states.

With regard to claim 9, it is clear that CPCI node is a plug and play unit according to the PCI and CPCI specification. Further, it is clear that the hop swappable nodes/CPCI Network of Larson meet the requirements set forth in Telecommunication Management Network (TMN). See "An introduction to TMN" cited below.

With regard to claim 10, Larson discloses a Compact Peripheral Component Interconnect (CPCI) system, comprising: a CPCI chassis (see at least Fig. 1, and description thereof); a circuit board forming a backplane within said chassis (see at least Figs.2 and 3, and description thereof); a CPCI node card (300) coupled with said circuit board, said node card providing a hot-swap state (the system of Larson is a CPCI and therefore, must be in full compliance with the CompactPCI specification, and particularly CompactPCI Hotswap Specification, which support hot swap states including hot insertion and removal of CPCI node card; see also Larson, [0061]); a manager for managing said CPCI card using a first management state and a second management state (manager card 300E, for example; in CompactPCI Hotswap Specification, availability of the card and operational state of the card is determined using software control (BDSEL# and HEALTHY#), see at least Hot Swap in CompactPCI Systems, cited below; in particular, in Larson, it is clear that management software is used in conjunction with the system management card 300E to monitor "BD SEL" and "HEALTHY" and the state of the hotswap is mapped from the FPGA hotswap status to the hotswap states of the management node/card; see at least [0063] –[0064]); a common library associated with said CPCI node card and said manager (the FPGA includes 18 hot swap statuses, and it is clear that a hotswap state of a node card must be correspond to one of the 18 states/statuses of the FPGA associated with the node card and software management so that a hotswap state can be recognized by the FPGA; see at least [0061]-[0064]), said common library providing an intermediate state; wherein said hot swap state is mapped onto said intermediate state of said common

library; and wherein said intermediate state is mapped onto said first and second management states of said manager (in CompactPCI Hotswap Specification, availability of the card and operational state of the card is determined (BDSEL# and HEALTHY#), see at least Hot Swap in CompactPCI Systems, cited below; in particular, in Larson, it is clear that management software is used in conjunction with the system management card 300E to monitor "BD SEL" and "HEALTHY" and the state of the hotswap is mapped from the FPGA hotswap status to the hotswap states of the management node; see at least [0063] –[0064]).

With regard to claim 11, as discussed above, it is clear that the management node/card requires said hot-swap state to be mapped onto said first and second management states via said intermediate state, provided by the FPGA, to manage said CPCI node card.

With regard to claim 12, It is clear that the management node/card 300E manages said CPCI node card 300 as a plug-in unit once said hot-swap state has been mapped onto said first and second management states via said intermediate state.

With regard to claim 13, it is clear that the hop swappable node/card 300 nodes/CPCI Network of Larson meets the requirements set forth in Telecommunication Management Network (TMN). See An introduction to TMN cited below.

With regard to claim 14, it is clear that the hot-swap state describes a hot-swap status of said CPCI node card.

With regard to claim 15, it is clear that according to CompactPCI Hotswap Specification, management states include availability of the card and operational state of the card (BDSEL# and HEALTHY#).

With regard to claim 16, according to Larson, which is in full compliance with CompactPCI Hotswap Specification, it is clear that the operational state comprises one of a null-operational state, an up-operational state, a down-operational state, and an unknown-operational state.

With regard to claim 17, according to Larson, which is in full compliance with CompactPCI Hotswap Specification, it is clear that the availability state comprises one of a null-availability state, a power-off-availability state, an offline-availability state, an available-availability state, a failed-availability state, and an unknown-availability state.

With regard to claim 18, according to Larson, which is in full compliance with CompactPCI Hotswap Specification, and in view of the above discussion, it is clear that the intermediate state comprises one of a no plug-in state, a first power-off state, a second power-off state, a first unavailable-state, a second unavailable-state, an available state, a failed state, and an unknown state.

With regard to claim 19, it is clear from the above discussion that the hot-swap state comprises a plurality of states for indicating plug-in status.

With regard to claim 20, according to Larson, which is in full compliance with CompactPCI Hotswap Specification, and in view of the above discussion, it is clear that the said hot-swap state comprises one of a first state for indicating a plug-in unit is present, but not powered on; a second state for indicating a plug-in unit is powered up,

but not connected; a third state for indicating a plug-in unit is connected; a fourth state for indicating a plug-in unit is configured, but drivers are not loaded and associated; a fifth state for indicating a plug-in unit is configured and drivers are loaded and associated; a sixth state for indicating a plug-in unit is in use; and two failed states.

With regard to claim 21, it is clear that the management node/card works in conjunction with software. Further, it is clear that the hop swappable node/card 300 nodes/CPCI Network of Larson meets the requirements set forth in Telecommunication Management Network (TMN). See An introduction to TMN cited below.

With regard to claim 22, in Larson, the CPCI Hot Swap is completely automatic and totally without the need of an operator. Thus, it is clear that the CPCI system and hot-swap state disclosed by Larson comprises a state based on a PCI Industrial Computer Manufactures Group (PICMG) hot-swap/High Availability (HA) specification. See discussion above regarding PICMG and see also TechOnLine: Part 3: Implementing High Availability Compact PCI, Implementing the HIP1011 on Hot Swap CPCI Boards for High Availability (HA) Platforms, and Highly Available Networking, all cited below.

With regard to claim 23, it is clear that the management node/card 300E manages said CPCI node card 300 as a plug-in unit once said hot-swap state has been mapped onto said first and second management states via said intermediate state. Further, it is clear that the management node/card works in conjunction with software. Further, it is clear that the hop swappable node/card 300 nodes/CPCI Network of

Larson meets the requirements set forth in Telecommunication Management Network (TMN). See An introduction to TMN cited below.

U.S. Patent Publication Nos. 2002/0158770 to Ahmed et al., 2005/0080971 to Brand, Hot Swap in CompactPCI Systems, Implementing the HIP1011 on Hot Swap CPCI Boards for High Availability (HA) Platforms, An Introduction to TMN, CompactPCI, Highly Available Networking, Implementing High Availability CompactPCI, Software Development Library: quckComm, and Ten Ingredients for Selecting HA Middleware are cited as relevant art.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.

Khanh Dang
Primary Examiner